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ADJUSTABLE BIMINI BRACKET

CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable

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STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable

BACKGROUND OF THE INVENTION

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This invention relates to the field of boat bimini tops, and more particularly to an adjustable mounting bracket for mounting an awning, or bimini, on a boat. The popularity of boating has resulted in a proliferation of sizes and styles of boats, with a consequent need for mounting options for bimini tops. Seating and control console arrangements differ greatly, and the bimini must be positioned to shield the boat

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occupants from sun and rain. When it is not needed, the bimini is folded for storage.

This usually involves supporting the folded bimini at an angle over the seats by erecting support posts. The propped-up bimini then becomes an obstruction to view, drips water after a rain, interferes with the casting of a fishing line, and can even fall down and injure

someone. In order to stow the folded bimini behind the aftermost seats, the whole bimini assembly must be able to slide aft. Heretofore, this required a pair of tracks; one mounted on each side of the boat, and related special hardware. This hardware is an expensive option, and is seldom installed. Adjusting the mounting position of struts and tie-down straps meant loosening the mounting brackets with a screwdriver and wrench, sliding the bracket on the square tubing frame or handrail, and then re-tightening the brackets. This process is so time-consuming and troublesome, that these brackets are adjusted once, and not touched again. Thus, if the boat is moored or anchored, and the hot sun is uncomfortable, there is no easy way to reposition the bimini for shelter, then later restore it's position for operating the boat.

Accordingly, there is a need to provide a bimini bracket that can be quickly and easily loosened, slidingly adjusted along a strut or handrail, and then quickly and securely tightened.

There is a further need to provide a bimini bracket of the type described and that will allow the entire bimini assembly to be moved forward or aft for repositioning or storage.

There is a yet further need to provide a bimini bracket of the type described and that will allow the entire bimini assembly to be rotated for optimal sheltering position.

There is a still further need to provide a bimini bracket of the type described and that is simple to operate and rugged for long service life.

There is another need to provide a bimini bracket of the type described and that can be manufactured cost-effectively in large quantities of high quality.

BRIEF SUMMARY OF THE INVENTION

In accordance with the present invention, there is provided an adjustable bimini bracket, for use in connection with a boat having a railing tubular member on either side of the boat. The boat is equipped with a bimini having a top, a plurality of tie-downs, and a plurality of strut tubular members. Each strut tubular member has at least one terminus. The bimini bracket comprises a left side plate and a right side plate, which are generally parallel and spaced apart. The left and right side plates extend between opposite first and second ends. The left and right side plates each have a first hole therethrough adjacent the first end, the first holes being collinear. The side plates also have a second hole through each plate adjacent the second end, the second holes being collinear. A transverse plate extends between the left and right side plates intermediate the first and second ends. Thus, the bimini bracket will slidably engage the tubular member between the left and right side plates, and adjacent the transverse plate.

A biasing means is provided for biasing the first ends of the left and right side plates toward one another. The biasing means includes a first bolt and a hand knob engaging the first holes. One of the first holes includes a first shaped recess therein to receive a similarly shaped member on the head of the first bolt. The biasing means is hand operated, so that the biasing means will be hand tightened. This will clamp the tubular member between the left and right side plates, thereby preventing the bimini bracket from sliding on the tubular member. Similarly, the biasing means will be hand loosened, allowing the bimini bracket to slide on the tubular member.

A fastening means is provided adjacent the second ends of the left and right side plates, for pivotal fastening of the terminus of one of the strut tubular members to the

bimini bracket, and for fastening one of the tie-downs to the bimini bracket. The fastening means includes a second bolt and a nut engaging the second holes. One of the second holes includes a second shaped recess therein to receive a similarly shaped member on the head of the second bolt.

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BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

A more complete understanding of the present invention may be obtained from consideration of the following description in conjunction with the drawing, in which:

FIG. 1 is a perspective view of an adjustable bimini bracket constructed in
10 accordance with the invention;

FIG. 2 is another perspective view of the bimini bracket of FIG. 1, showing associated hardware;

FIG. 3 is a left side elevational view of the bimini bracket of FIG. 1;

FIG. 4 is a front elevational view of the bimini bracket of FIG. 1;

15 FIG. 5 is a right side elevational view of the bimini bracket of FIG. 1, showing the bracket mounted for use;

FIG. 6 is another right side elevational view of the bimini bracket of FIG. 1, showing the bracket mounted for use;

FIG. 7 is a starboard side elevational view of a boat, showing the bimini bracket
20 of FIG. 1 in use on a bimini; and

FIG. 8 is another starboard side elevational view of a boat, showing the bimini bracket of FIG. 1 in use on a bimini.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawing, an adjustable bimini bracket is shown at 10, and is for use in connection with a boat 12 having a railing tubular member 14 on either side of the boat 12. The boat 12 is equipped with a bimini 16 having a top 18, a plurality of tie-downs 20, and a plurality of strut tubular members 22. Each strut tubular member 22 has at least one terminus 24. The bimini bracket 10 comprises a left side plate 26 and a right side plate 28, which are generally parallel and spaced apart. The left 26 and right 28 side plates extend between opposite first 30 and second 32 ends. The left 26 and right 28 side plates extend between opposite front 34 and rear 36 edges. The left 26 and right side 28 plates each have a first hole 38 therethrough adjacent the first end 30, the first holes 38 being collinear. The side plates 26 and 28 also have a second hole 40 through each plate adjacent the second end 32, the second holes 40 being collinear. The left 26 and right 28 side plates each have an inner surface 42 and an outer surface 44.

A transverse plate 46 extends between the left 26 and right 28 side plates intermediate the first 30 and second 32 ends. The transverse plate 46 extends from adjacent the front edge 34 to adjacent the rear 36 edge. A left ridge 48 is provided on the left plate inner surface 42, and a right ridge 50 is provided on the right plate inner surface 42. The left 48 and right 50 ridges are disposed intermediate the transverse plate 46 and the first end 30. The left 26 and right 28 side plates taper upward in thickness from the first end 30 to the ridges 48 and 50, to reinforce the side plates 26 and 28 adjacent the first end 30. The left 48 and right 50 ridges extend from adjacent the front edge 34 to adjacent the rear edge 36. Thus, the bimini bracket 10 will slidingly engage the tubular

member 14 or 22 between the left 26 and right 28 side plates, and between the transverse plate 46 and the left 48 and right 50 ridges.

A hand operated biasing means is provided for biasing the first ends 30 of the left 26 and right 28 side plates toward one another. The biasing means includes a first bolt 52
5 and a hand knob 54 engaging the first holes 38. A first boss 56 is juxtaposed with one of the first holes 38. The first boss 56 has a first hexagonal recess 58 therein aligned with the first hole 38 to receive the head of the first bolt 52, so as to resist turning of the first bolt 52 while turning the hand knob 54. The hand knob 54 will be hand tightened, clamping the tubular member 14 or 22 between the left 26 and right 28 side plates,
10 thereby preventing the bimini bracket 10 from sliding on the tubular member. Similarly, the hand knob 54 will be hand loosened, allowing the bimini bracket 10 to slide on the tubular member 14 or 22.

A fastening means is provided adjacent the second ends 32 of the left 26 and right 28 side plates, for pivotal fastening of the terminus 24 of one of the strut tubular members
15 22 to the bimini bracket 10, and alternately for fastening one of the tie-downs 20 to the bimini bracket 10. The fastening means includes a second bolt 60 and a nut 62 engaging the second holes 40. A second boss 64 is juxtaposed with one of the second holes 40. The second boss 64 has a second hexagonal recess 66 therein aligned with the second hole 40 to receive the head of the second bolt 60, so as to resist turning of the second bolt
20 60 while turning the nut 62.

A plurality of ribs 68 is provided on the outer surfaces of the left and right side plates. The ribs 68 extend between the front 34 and rear 36 edges, to reinforce the side plates 26 and 28.

In use, the bimini brackets 10 mounting the bimini 16 to the railing tubular member 14 can be loosened, as shown in FIGS. 6 and 7. This will allow sliding movement of the bimini 16 forward in the direction of arrow 70, or aft in the direction of arrow 72. The bimini 16 can be rotated, as shown in FIGS. 6 and 8. Forward rotation is depicted in the direction of arrow 74, and aft rotation in the direction of arrow 76. As illustrated in FIG. 5, adjustments can be made to a tie-down 20 by sliding the bracket 10 along the strut tubular member 22 upward in the direction of arrow 78, or downward in the direction of arrow 80. The tie-down 20 can be shifted forward and aft as in arrows 82 and 84 respectively.

10 Numerous modifications and alternative embodiments of the invention will be apparent to those skilled in the art in view of the foregoing description. Accordingly, this description is to be construed as illustrative only and is for the purpose of teaching those skilled in the art the best mode of carrying out the invention. Details of the structure may be varied substantially without departing from the spirit of the invention and the
15 exclusive use of all modifications that will come within the scope of the appended claims is reserved.